Information

Physician Oversupply—The Views of 1,900 California Physicians

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PHYSICIAN SUPPLY has again become a topic of concern within the medical community and among public policymakers. It last received attention during the 1960s when a physician shortage was widely perceived and measures were undertaken to augment the supply of physicians. Growth in physician manpower accelerated rapidly during the ensuing decade, and the primary issue now is not a shortage but the possibility of an oversupply. Fueled by findings of the Graduate Medical Education National Advisory Committee, which forecast a national surplus of 70,000 physicians by 1990,[1] concern about the prospect and potential ramifications of physician oversupply has mounted.

Interest in the issue has been keen in California, where the physician-to-population ratio is among the highest in the nation and where the supply of physicians has expanded more than twice as fast as the population during recent years.[2] In view of the continuing rapid increases in the relative supply of physicians and the lack of substantive information about how physicians themselves view current and projected levels of supply and the potential impact of a physician surplus, we conducted a survey to elicit the perceptions and opinions of practicing physicians on these issues.

Methods

The survey instrument we used was a mailed, self-administered, two-page questionnaire consisting primarily of precoded, fixed-alternative questions but providing for some open-ended responses. The content of the questionnaire was developed through discussions between California Medical Association (CMA) research staff and physician members of CMA's Committee on Physician Supply, and was subsequently reviewed and refined by the association's Bureau of Research and Planning.

Copies of the questionnaire were mailed to a randomly selected sample of 2,822 physicians from among the universe of active nonfederal physician members of CMA engaged in direct patient care activities, representing approximately 10% of total CMA membership. A postcard reminder was sent to all nonrespondents after one month and at the end of two months a second copy of the survey form was mailed to remaining nonrespondents.

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Usable responses were received from 1,900 physicians, a net response rate of 67.3%. Response rates for individual demographic segments of the sample were excellent, and analysis showed the responding sample to closely reflect the geographic and specialty distributions of California's physician population.

Results

Assessment of Current Supply

Asked to assess the adequacy of the current supply of physicians in the immediate geographic area their practice serves, in the county in which their practice is located and in the state as a whole, a majority of respondents indicated that an excess of physicians exists in each of the three geographic delineations (Table 1). However, while the preponderance of respondents throughout the state agreed that there are too many physicians in California, perceptions of local supply varied widely according to practice location and appeared to reflect known disparities in relative supply (that is, physicians per population). The perception of oversupply was most prevalent among physicians practicing in major urban centers, where more than two thirds of respondents deemed both their county and the specific geographic area their practice serves oversupplied. In some large metropolitan area counties the proportions were substantially higher—exceeding 90%, for example,in San Francisco and in the adjacent county of Marin.

Regarding the supply of physicians in their own primary specialty, most respondents considered their fields overcrowded both locally and at the county level (Table 2). Oversupply was most widely perceived among surgeons, a majority of whom also thought there was an excess of co-specialists statewide. Among nonsurgical specialties, dermatology, anesthesiology and pathology were also deemed to have a statewide surplus by a clear majority of practitioners. General/family practice was the only major field in which an appreciable number of physicians believed a shortage to exist, although a majority of respondents nevertheless thought there was an adequate or more than adequate supply.

A tabulation of responses regarding the adequacy of specialty supply according to practice location confirmed that physician crowding is felt most keenly in large metropolitan areas and among surgical specialists (Table 3). With the exception of general and family practitioners, the preponderance of physicians in major metropolitan areas considered their specialties overcrowded in the county where they practice, with the proportion reaching as high as seven in ten among surgeons. Even in the least populated, primarily rural counties, 44.4% of the surgeons thought there were too many surgical specialists in their area.

Recent and Projected Trends in Supply

Consonant with the documented expansion of physician supply in all areas of the state, a uniformly large majority of respondents in each type of geographic area concurred that

the relative supply of physicians in their specialty had increased during the past few years in the geographic area their practice serves. At least 85% of respondents in each major specialty other than general and family practice affirmed such an increase in the physician-to-population ratio; even among general and family practitioners, however, the proportion was a substantial 70%.

With reference to national trends, most respondents agreed that more physicians are entering practice in the United States than are needed to provide an optimal level of care to the population, both in general (64.7%) and in their own specialty (59.6%), although psychiatrists and general and family practitioners did not concur with this overall assessment with respect to their fields. Asked to react to the Graduate Medical Education National Advisory Committee (GMENAC) forecast of a national surplus by 1990 of 70,000 physicians, 37.1% of respondents thought "the figure looks about right," 18.7% believed "the surplus will be even

TABLE 1.—*Perception of the Adequacy of Physician Supply in Various Geographic Areas, by Practice Location**

		Perception of the Adequacy of Physician Supply In—											
		Specific Geographic Area Practice Serves				County in Which Practice Is Located				California			
Practice Location	N	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)
Major metropolitan area†	1,370	69.9	23.5	1.1	5.5	68.6	21.7	1.2	8.5	51.7	25.6	1.2	21.5
Other metropolitan area‡	326	49.7	38.4	6.1	5.8	47.3	41.1	6.1	5.5	53.4	27.0	2.4	17.2
Semiurban area§	84	36.9	56.0	4.7	2.4	47.6	44.0	6.0	2.4	51.2	27.4	1.2	20.2
Primarily rural area‖	58	22.4	58.6	15.5	3.5	15.5	67.2	13.8	3.5	53.4	25.9	...	20.7
State total	1,838	63.3	28.7	2.6	5.3	62.2	27.6	2.7	7.6	52.0	26.0	1.4	20.6

*Excludes 62 respondents (primarily residents) whose practice location is unknown.
†Includes counties in Standard Metropolitan Statistical Areas (SMSAs) with population over 1 million.
‡Includes counties in SMSAs with population of 1 million or less.
§Includes counties with one or more cities over 25,000 but not within an SMSA.
‖Includes counties with no city over 25,000 and more than half of population residing in unincorporated areas.
Note: Percentages may not total exactly 100% due to rounding.

TABLE 2.—*Perception of the Adequacy of Specialty Supply, by Specialty**

		Perception of the Adequacy of Physician Supply In Respondents' Specialty in—											
		Specific Geographic Area Practice Serves				County in Which Practice Is Located				California			
Specialty†	N	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)
General/family practice	325	33.5	45.2	18.8	2.5	31.1	44.0	19.7	5.2	24.9	27.4	26.2	21.5
Medical specialties (total)	488	59.8	33.4	3.3	3.5	52.9	34.4	4.9	7.8	39.6	35.2	3.5	21.7
Internal medicine	301	60.8	32.9	3.3	3.0	52.5	34.9	4.3	8.3	37.2	38.2	2.7	21.9
Pediatrics	88	60.2	33.0	4.5	2.3	48.9	37.5	6.8	6.8	34.1	37.5	5.7	22.7
Dermatology	31	58.0	35.5	...	6.5	71.0	25.8	...	3.2	71.0	9.7	...	19.3
Cardiovascular diseases	36	58.3	38.9	2.8	...	52.8	27.8	8.3	11.1	38.9	38.9	2.8	19.4
Other medical specialties‡	32	53.1	31.3	3.1	12.5	50.0	37.5	6.3	6.2	46.9	21.9	9.3	21.9
Surgical specialties (total)	636	68.1	28.1	1.3	2.5	65.5	28.1	1.3	5.0	55.2	24.4	1.9	18.5
General surgery	146	66.4	28.8	2.1	2.7	71.2	21.2	2.8	4.8	61.6	15.8	2.7	19.9
Neurological surgery	25	68.0	24.0	...	8.0	64.0	28.0	...	8.0	76.0	12.0	...	12.0
Obstetrics/gynecology	131	59.5	35.9	2.3	2.3	52.7	39.7	2.3	5.3	35.1	39.7	3.8	21.4
Ophthalmology	82	79.3	20.7	...	...	72.0	21.9	...	6.1	69.5	14.6	...	15.9
Orthopedic surgery	95	67.4	27.4	2.1	3.1	65.3	31.6	...	3.1	54.7	27.4	1.1	16.8
Otorhinolaryngology	41	70.7	29.3	...	...	68.3	24.4	2.4	4.9	43.9	26.8	...	29.3
Plastic surgery	28	85.7	10.7	...	3.6	78.6	17.8	...	3.6	67.9	14.3	...	17.8
Urological surgery	66	75.8	21.2	...	3.0	71.2	22.7	...	6.1	62.1	24.3	...	13.6
Other surgical specialties§	22	40.9	54.6	...	4.5	45.5	50.0	...	4.5	40.9	36.4	9.1	13.6
Other specialties (total)	396	52.8	38.1	5.6	3.5	53.5	38.6	4.1	3.8	45.7	29.6	6.3	18.4
Anesthesiology	94	54.3	40.4	2.1	3.2	54.3	40.4	3.2	2.1	52.1	29.8	4.3	13.8
Pathology	45	66.7	28.9	2.2	2.2	71.1	22.2	...	6.7	71.1	15.6	...	13.3
Psychiatry	87	56.3	29.9	6.9	6.9	55.2	34.5	3.4	6.9	28.7	34.5	9.2	27.6
Radiology	100	51.0	43.0	4.0	2.0	55.0	42.0	2.0	1.0	49.0	34.0	3.0	14.0
All other specialties‖	70	40.0	44.3	12.9	2.8	37.1	47.1	11.4	4.3	37.1	25.7	14.3	22.9
Total, all specialties	1,845	56.5	34.7	5.8	3.0	53.6	34.9	6.1	5.5	43.7	28.9	7.5	19.9

*Excludes 55 respondents whose specialty is unknown.
†Listed individually only if 25 or more respondents specified as their primary specialty.
‡Includes allergy, gastroenterology and pulmonary diseases.
§Includes colon and rectal surgery and thoracic surgery.
‖Includes emergency medicine, aerospace medicine, general preventive medicine, occupational medicine and the like.

greater" and 20.8% indicated they "don't think the surplus will be that great." Only 4.8% said they did not believe there will be a surplus in 1990. (The remaining 18.6% did not express an opinion.) Combining the first two responses, a total 55.8% of respondents believe the GMENAC forecast to be either roughly accurate or understated; including the responses of those who indicated the surplus will be of lesser magnitude than predicted by GMENAC, a full three quarters of the physicians surveyed (76.6%) anticipated a national physician surplus of *some* magnitude by the end of this decade.

Competitive Reactions to Increasing Supply

One section of the questionnaire asked physicians if they had found an increase in competition for patients during the past few years in the geographic area their practice serves. It was conjectured that, although an oversupply of physicians may not result in the price competition observed in the marketplace for other goods and services as supply increases relative to demand, growth in physician supply might nevertheless give rise to other manifestations of competitive behavior. Several ways in which physicians might have become more competitive were listed and respondents were asked to indicate which, if any, they had observed in their own area.

As shown in Table 4, more than four out of five respondents agreed that competition for patients had intensified. Not surprisingly, this perception was most prevalent among surgeons and among physicians practicing in major metropolitan areas—the specialties and locations in which the perception of oversupply was most prevalent. However, even among rural physicians, relatively few of whom considered their area oversupplied, a substantial majority also said that competition for patients had increased. The manifestation most frequently reported among all respondents was "greater willingness to enter into agreements (such as with health maintenance organizations or individual practice associations) to accept payments below 'usual, customary or reasonable' levels." Similarly sizeable and more uniformly observed proportions of respondents indicated that physicians in their area are "accepting referrals from more sources" and "expanding

TABLE 3.—*Perception of the Adequacy of Specialty Supply in County in Which Practice Is Located, by Practice Location**

		Perception of the Adequacy of Physician Supply In Respondents' Specialty Among Physicians Practicing in—															
		General/Family Practice (N=318)				Medical Specialties (N=481)				Surgical Specialties (N=634)				Other Specialties (N=394)			
Practice Location†	N	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)	Too Many MDs (%)	About Right (%)	Too Few MDs (%)	Can't Judge (%)
Major metropolitan area	1,362	34.8	40.9	17.2	7.1	57.3	30.1	2.7	9.9	70.2	24.0	0.8	5.0	62.7	30.1	2.7	4.5
Other metropolitan area	325	27.7	47.0	21.7	3.6	36.9	51.3	10.5	1.3	49.5	43.4	1.0	6.1	29.8	61.2	6.0	3.0
Semiurban area	83	20.0	56.0	24.0	...	60.0	26.7	13.3	...	50.0	45.0	5.0	...	26.1	65.2	8.7	...
Primarily rural area	57	16.7	66.6	16.7	...	20.0	60.0	20.0	...	44.4	44.4	5.6	5.6	16.7	75.0	8.3	...
State total	1,827	31.1	44.7	18.9	5.3	53.0	34.3	4.8	7.9	65.6	28.2	1.1	5.1	53.6	38.8	3.8	3.8

*Excludes 73 respondents whose specialty and/or practice location is unknown.
†See footnotes to Table 1 for definitions of areas.

TABLE 4.—*Perception of Whether There Has Been an Increase in Competition Among Physicians for Patients During Past Few Years in Geographic Area Practice Serves, by Type of Specialty and Practice Location*

		Type of Specialty				Practice Location†			
Response	All Respondents* (N=1900) (%)	GP/FP (N=325) (%)	Medical (N=488) (%)	Surgical (N=636) (%)	Other (N=396) (%)	Major Metro. (N=1370) (%)	Other Metro. (N=326) (%)	Semiurban (N=84) (%)	Primarily Rural (N=58) (%)
Competition has increased	81.9	76.0	84.0	86.5	80.1	84.4	80.4	76.2	63.8
Forms of competition observed‡									
Charging lower fees	7.2	7.4	3.9	7.1	11.9	8.2	5.5	3.6	5.2
Advertising/public relations	40.5	40.3	37.7	46.7	36.1	44.1	35.6	26.2	19.0
Expanding types of services provided (specialty "turf" invasion)	58.5	50.5	60.0	61.6	60.4	59.6	58.0	61.9	51.7
Accepting referrals from more sources	59.6	48.9	61.9	61.9	63.1	61.3	57.1	57.1	51.7
Accepting categories of patients not previously treated (eg, Medi-Cal, Workers' Compensation, legal consultations)	51.1	44.9	50.2	53.9	55.1	52.9	52.1	42.9	34.5
Greater willingness to enter into agreements (eg, with HMOs or IPAs) to accept payments below usual, customary or reasonable levels	60.6	54.2	61.9	66.7	58.3	66.5	53.4	39.3	24.1
No increase in competition	11.3	19.4	9.4	10.1	10.1	9.4	15.3	19.0	29.3
Unable to judge	6.8	4.6	6.6	3.5	9.8	6.2	4.3	4.8	6.9
Total response	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

HMOs=health maintenance organizations, IPAs=individual practice associations

*Includes 55 respondents whose specialty is unknown and 62 respondents whose practice location is unknown, not shown separately.
†See footnotes to Table 1 for definitions of areas.
‡Respondents were permitted to indicate more than one form of competition.

the types of services provided (that is, specialty 'turf' invasion)."

Two other possibilities listed on the questionnaire—"advertising/public relations" and "charging lower fees"—represent competitive strategies commonly observed in the market for many goods and services, but which have not yet become widespread among physicians. The reported incidence of advertising and public relations activity was greatest in areas with the highest concentration of physicians and most widely perceived by surgeons. Reinforcing the theory that price competition is a relatively inconsequential force in the market for physicians' services, fewer than one in ten respondents in any type of area reported that physicians are charging lower fees.

Effects of Oversupply on Quality and Cost of Care

Asked to assess the impact an oversupply of physicians in their own specialty would have on the quality of medical care, nearly half of all respondents indicated that a surplus would have neither a positive nor a negative effect (Table 5). One in five respondents thought the quality of care would improve, but a significantly greater number—including 43.7% of surgeons—said the quality of care would deteriorate. Most of these physicians agreed that unnecessary procedures would be carried out and about half said that procedures would be done with less proficiency. With reference to cost of care, a plurality of all respondents and a majority of surgeons said charge levels increase as a result of oversupply.

Trends in Workload and Income

To elicit an indication of whether certain socioeconomic characteristics of medical practice may have been affected by expansion in physician supply, respondents who had been practicing in the same community for at least five years were queried about trends in the numbers of patients seen and procedures done during an average workweek and in their income from medical practice. A plurality of all respondents reported no change during the past few years in either the number of procedures or number of patients. Among physicians in general and family practice, however, a plurality in each case reported a decline and relatively few said their workload had increased. Geographically, although a somewhat greater proportion of respondents in major metropolitan areas than in other locations indicated a diminishing patient base, no parallel difference was observed with respect to the number of procedures carried out.

While relatively few respondents reported an increase in their average workload, a plurality (45.4%) said their net income from medical practice had nevertheless risen during the five-year period. As was the case with trends in workload, however, a plurality of general and family practitioners reported a decline. Most respondents observed that their incomes had not kept pace with inflation and had not increased at the rate they had anticipated.

Opinions Regarding Resolution of Manpower Problem

Physicians were divided in their opinions when asked if, in the absence of external mechanisms affecting the future supply of physicians, they thought the forces of supply and demand would be successful in bringing balance to the relative supply of physicians (Table 6). Half of all respondents and more than half of the medical and surgical specialists doubted the ability of the free market to correct a manpower imbalance. Organized medicine and specialty societies, followed closely by graduate and undergraduate medical educators, were the entities most favored to work toward a resolution of the oversupply problem. Among physicians who did express confidence in the self-regulating ability of the marketplace, most agreed it would take longer than five years for supply and demand forces to succeed in correcting an imbalance, and many thought that more than ten years would be necessary.

Respondents were also asked to evaluate ten suggestions for dealing with a physician surplus, whether or not they

TABLE 5.—*Perceived Effects of Physician Surplus on Quality and Cost of Medical Care, by Type of Specialty*

Perceived Effects on—	All Respondents* (N=1900) (%)	Type of Specialty: GP/FP (N=325) (%)	Medical (N=488) (%)	Surgical (N=636) (%)	Other (N=396) (%)
Quality of Care					
Care would improve (total)†	19.8	27.7	21.5	12.3	21.2
Better patient access to physicians	15.5	23.4	17.6	9.9	14.1
More time spent with each patient	15.4	24.3	18.0	9.3	13.6
Care would deteriorate (total)†	31.4	21.8	27.5	43.7	25.8
Unnecessary procedures would be done	28.2	21.2	24.6	40.9	18.9
Procedures done with less proficiency	15.8	7.4	12.5	24.5	13.6
No difference in quality	48.5	50.2	51.0	43.9	52.8
No answer	0.3	0.3	...	0.2	0.3
Cost of Care					
Charge levels increase	45.3	43.4	44.1	51.9	38.6
Charge levels do not change	39.0	37.8	43.0	35.2	40.2
Charge levels decline	14.2	16.9	12.5	10.5	19.7
No answer	1.5	1.8	0.4	2.4	1.5
Total response	100.0	100.0	100.0	100.0	100.0

*Includes 55 respondents whose specialty is unknown, not shown separately.

†Since many of the respondents who indicated that care would improve or that care would deteriorate indicated more than one of the listed ways this might occur, the sum of percentages shown for individual ways exceeds totals.

TABLE 6.—*Opinions Regarding the Achievement of Balance in Physician Supply, by Type of Specialty*

Opinion	All Respondents* (N=1900) (%)	Type of Specialty: GP/FP (N=325) (%)	Medical (N=488) (%)	Surgical (N=636) (%)	Other (N=396) (%)
Supply/demand forces will work	43.1	49.2	40.6	38.7	47.7
How long it might take†					
Less than 5 years	4.3	4.3	3.9	4.4	5.1
5-10 years	24.1	29.8	21.7	21.2	27.5
Over 10 years	14.1	13.5	14.1	12.7	15.2
Supply/demand forces inadequate	49.9	43.7	52.2	55.2	43.7
Who should intervene‡					
Federal government	17.3	19.1	20.7	17.5	14.6
State government	18.1	18.8	21.9	16.7	14.9
Organized medicine	46.2	41.8	49.2	50.5	40.2
Specialty societies	42.5	30.2	45.1	49.5	38.6
Undergraduate medical educators	35.5	32.0	37.5	38.8	31.1
Graduate medical educators	39.1	33.8	40.8	43.7	33.8
Balance already exists	5.9	5.5	5.1	5.5	8.3
No answer	1.1	1.5	1.8	0.6	0.3
Total response	100.0	100.0	100.0	100.0	100.0

*Includes 55 respondents whose specialty is unknown, not shown separately.
†Percentage of respondents who did not specify length of time not shown.
‡Respondents were permitted to indicate more than one alternative.

perceived a present or future manpower problem. Support was particularly strong for four of the suggestions, each of which was deemed a "good idea" or a "fair idea" by three quarters or more of the respondents: "Change immigration policies to limit the number of foreign nationals entering practice in the United States" (90.4%); "Establish some sort of mechanism for evaluating foreign medical schools" (86.0%); "Work within the educational system at the undergraduate level and below to apprise students that opportunities for physicians are limited" (84.6%), and "Tighten licensure requirements in general" (77.2%). Support for these proposals was uniformly high among each of the demographic subsamples.

Suggestions to "voluntarily lower the number of places in US medical schools" and to "lower the number of residency positions" also garnered considerable support; 72.9% and 71.5%, respectively, thought these were good or fair ideas. Opinions were divided in reaction to proposals to "cut back government funds for medical education" and "establish 'certificates of need' by state or area," with nearly equal proportions judging these to be good or fair and poor ideas. Suggestions to "issue licenses by specialty" and "limit the amounts of funding for medical students" were deemed poor ideas by the majority of respondents, although younger physicians were more amenable to the idea of specialty licensure than were their older colleagues.

Conclusion

While an opinion poll of this nature cannot yield a scientific evaluation of either the adequacy of current and projected levels of physician supply or the ramifications of oversupply, the results of this survey nevertheless constitute a reasonably reliable representation of how California physicians view the manpower situation in their profession and the implications of continued growth in the relative supply of physicians. To the extent that competitive trends reported by survey respondents are in fact correlated with expansion in physician supply, and to the extent that opinions regarding the impact of oversupply on the quality and cost of medical care reflect the actual experience of physicians who deem a surplus in their specialty to exist already, these results may prefigure trends likely to become more prevalent as the physician/population ratio continues to climb both in California and nationally. Results of the survey also provide policymakers and planners with an indication of the approaches favored by physicians themselves in any attempt to address physician supply issues.

REFERENCES

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